

Case 2732

***Ceratites nodosus* (Cephalopoda, Ammonoidea): proposed attribution of the specific name to Schlotheim, 1813, and proposed designation of a lectotype**

Max Urlichs

Staatliches Museum für Naturkunde Stuttgart, Rosenstein 1, D-7000 Stuttgart, Germany

Abstract. The purpose of this application is to conserve the name of the Triassic ammonite *Ceratites nodosus* (Schlotheim, 1813) in its current usage by designation of a lectotype from Schlotheim's original collection.

1. Bruguière (1789, p. 43) established the species *Ammonites nodosa* and described it referring to two earlier figures: Baier (1708, p. 63, pl. 4, fig. 2) and Bourguet (1742, pl. 39, fig. 262). Bruguière (1789, p. 43) regarded the specimen figured by Baier as a variety of his *Ammonites nodosa*: 'Baierus a représenté une variété de cette Ammonite, qui consiste uniquement dans la forme des tubercles du rang le plus intérieur, ils sont lenticulaires comme les autres et à peu près du même volume qu'eux'. Later it was identified by Quenstedt (1849, p. 133) as *Ammonites perarmatus* Sowerby, 1822, being the type species of *Euaspidoceras* Spath, 1931 (see Opinion 1456, BZN 44: 212). It follows that for the interpretation of *Ammonites nodosa* Bruguière only Bourguet's (1742) figure should be taken into account. This figure was redrawn from Scheuchzer (1718, fig. 25), whose specimens form the type series of *Ammonites nodosa* Bruguière, as pointed out by Rieber & Tozer (1986, p. 830).

2. Schlotheim (1813, p. 100) used the name *Ammonites nodosus* but did not attribute it to any author nor did he describe the species. In the synonymy he listed a number of pre-Linnaean works and also Bosc (1802) who had referred to Bruguière (1789). Subsequently, Schlotheim (1820, p. 67) again did not indicate the author and described *Ammonites nodosus* as being characterized by the following features: ceratitic suture, double row of nodes (marginal and lateral) and a great variation in size — a description which includes all *Ceratites* species in current usage except those of the subgenera *Discoceratites* and *Gymnoceratites*. Three years later Schlotheim (1823, pl. 32, fig. 1) figured a specimen of *Ammonites nodosus* which was refigured by Urlichs & Mundlos (1987, fig. 10). The Schlotheim collection of '*Ammonites nodosus*' in the Museum für Naturkunde, Berlin, was recently examined by Urlichs & Mundlos (1987, p. 9) who demonstrated that *Ammonites nodosus* as described by Schlotheim in 1813 and 1820 is a mixture of at least 15 species of *Ceratites* in current usage.

3. The genus *Ceratites* was established by de Haan (1825, p. 39) with four included species (pp. 156–158): *Ammonites radiatus* Bruguière, 1792; *Ammonites nodosus* Bruguière, 1789; *Ceratites cinctus* sp. nov. (p. 157); and *Ammonites henslowi* J. Sowerby, 1820. De Haan did not designate any of these four species as the type species. Subsequent workers placed in the genus *Ceratites* all ammonoids with ceratitic

sutures including species from diverse genera and even families. Two of the four species originally included in *Ceratites* by de Haan are nowadays referred to other genera: *Ceratites radiatus* (Bruguière) = *Acanthodiscus radiatus*; *Ceratites henslowi* (Sowerby) = *Merocanites henslowi*.

4. In describing the nominal species *Ceratites nodosus*, de Haan included a number of taxa that are today assigned to different species and even genera. He listed in the text synonyms which are today assigned to the following species and genera:

Knorr & Walch (1773, part 2, pl. 1A, figs. 4–5, pl. D3, fig. 5) = *Ceratites* sp. indet.

Ammonites nodosa Bruguière = *Ceratites* (*Doloceratites*) *robustus robustus* Riedel, 1916, in current usage (see Urlichs & Mundlos, 1987, p. 9).

Nautilus undatus Reinecke, 1818 = *Ceratites* (*Ceratites*) *nodosus* Schlotheim (see Urlichs & Mundlos, 1987, p. 11).

Ammonites plicomphalus Sowerby, 1822 = *Subcraspedites plicomphalus*, type species of the genus *Subcraspedites* Spath, 1924.

5. The specimen of *Ceratites nodosus* described and measured by de Haan (1825, p. 157) is unfortunately missing (pers. comm. Ph. J. Hoedemaeker, Leiden, 1989). De Haan's Latin description of *Ceratites nodosus* reads (in translation): 'Test discoid with three subinvolute rounded whorls and with ribbed flanks, and widely spaced ribs on the last whorl diminishing towards the venter; rounded, smooth venter in adults, sulcate venter in juveniles'. This description corresponds with current usage of *Ceratites* (*Ceratites*) *nodosus* following Philippi's revision in 1901 (see para. 6 below), but does not correspond with the type series of *C. nodosus* (Bruguière).

6. The first author to describe a wide range of *Ceratites* species was Philippi (1901). He discussed (p. 410) Scheuchzer's figure on which *Ammonites nodosa* Bruguière was based, saying that the fossil was drawn inexactly in Scheuchzer's book. The lobes and saddles were correctly figured except that the saddles were distinctly crenulated in contrast to the original specimen. Furthermore, the nodes, especially the umbilical nodes, were too strongly figured, resembling those of *Aspidoceras*. Philippi (1901, p. 413) regarded Schlotheim's figure (1823, pl. 31, fig. 1) as typical of *Ceratites nodosus*, which differs from Scheuchzer's figure, type specimen of *C. nodosus* Bruguière: 'Als Typus des *Ceratites nodosus* sind nach Schlotheim's Figur, die ein wohnkammerloses Exemplar darstellt, grosse, mässig involute Formen mit weit auseinanderstehenden, wulstigen, auf der letzten Windung nicht gespaltenen Rippen und breitem, wenig gewölbtem Rücken aufzufassen'. Schlotheim's specimen (1823, pl. 31, fig. 1) of *Ammonites nodosus* was recently redetermined and figured as *Ceratites* (*Acanthoceratites*) *spinosus spinosus* Philippi, 1901 (p. 404) by Urlichs & Mundlos (1987, fig. 10). Additionally, Philippi (1901, p. 413, pl. 46, fig. 1) described and figured as *Ceratites nodosus* a specimen very similar in dimension and sculpture to Schlotheim's figure of *Ammonites nodosus*. This specimen, however, differs from Schlotheim's (1823) *Ceratites nodosus*.

7. The first author to select a type species for *Ceratites* was J.P. Smith (1904, p. 382) who wrote 'Type. — *Ceratites nodosus* Bruguière, figured by de Haan in his *Monographiae Ammoniteorum et Goniatiteorum Specimen*, 1825, p. 39'. However, on the page cited only the diagnosis of the genus *Ceratites* is given and no figure is added. The four species assigned to this genus are described on pp. 156–158 of de Haan's book.

8. Spath (1934, p. 477) suggested that the specimen of *Ceratites nodosus* figured by Philippi (1901, pl. 46, fig. 1) 'may be considered to be the neotype'. This specimen was

destroyed in Strasbourg (pers. comm. J.C. Gall, 1984). This neotype designation, even had it been the earliest, does not fulfil the qualifying conditions of Article 75d of the Code in that Spath did not explain steps taken to find Scheuchzer's original specimen, did not explain whether or not the proposed neotype was consistent with Scheuchzer's figure, and designated as neotype a specimen from Ballbronn (Alsace) which is far distant from the type locality of Wolfenbüttel (Lower Saxony).

9. Recently, Rieber & Tozer (1986) reported the discovery of three of Scheuchzer's specimens that eventually provided the definition of *Ceratites nodosus*. They designated one of these specimens (no. L/1651 in the collections of the Paläontologisches Institut und Museum der Universität Zürich) as lectotype of *Ceratites nodosus* (Bruguière). This specimen is conspecific with *Ceratites (Dolocerites) robustus robustus* Riedel, 1916 (see Rieber & Tozer, 1986, p. 833; Urlichs & Mundlos, 1987, fig. 14). Following the discovery of this type specimen, attempts have been made to sort out the problem. Rieber & Tozer (1986) gave priority to the type specimen. This would cause great confusion since it would necessitate taxonomic revision within the genus *Ceratites* for the following reasons:

- a). *Ceratites (Dolocerites) robustus robustus* becomes a junior subjective synonym of *Ceratites (Ceratites) nodosus* and the subgenus *Dolocerites* becomes a junior subjective synonym of the subgenus *Ceratites*.
- b). The name *Ceratites nodosus* no longer applies to a Lower Ladinian species for which it has consistently been used since 1901 and is transferred to an Upper Anisian species.
- c). The species currently known as *Ceratites nodosus* must be renamed *Ceratites undatus* Reinecke, 1818.
- d). Confusion would be caused in biostratigraphy by transferring the *nodosus* Zone from the Lower Ladinian to the Upper Anisian.

10. There are three options for the designation of the type specimen of *Ammonites nodosus*:

- a). Scheuchzer's original. Excellent quality but poorly described and not properly figured until 1986; proposed as lectotype by Rieber & Tozer (1986, p. 831).
- b). Schlotheim's (1823) figured specimen. It is only a phragmocone and was not properly figured until 1987; it was thought by Philippi (1901) to be typical of *Ceratites nodosus*.
- c). One of Schlotheim's other specimens of *Ammonites nodosus*. Some are good specimens, but not figured until 1987; Urlichs & Mundlos (1987, p. 7, fig. 1) proposed as lectotype specimen no. 1.4 in the Schlotheim collection, registered as no. C785 at the Museum für Naturkunde an der Humboldt Universität, Berlin.

Options a) and b) are substantially different from current usage of the nominal taxon *Ceratites nodosus*. In contrast, Option c), although substantially different from Scheuchzer's figured specimen, is in conformity with current usage in recent papers, e.g. Busse (1970, p. 142), Hagdorn & Mundlos (1983, p. 387) and Heller & Zeiss (1972, p. 37). A representative list of 11 further recent papers with this current usage is held by the Commission Secretariat.

11. The International Commission on Zoological Nomenclature is accordingly asked:

- (1) to use its plenary powers:

- (a) to suppress the specific name *nodosa* Bruguière, 1789, as published in the binomen *Ammonites nodosa*, and other uses of that name before the publication of *Ammonites nodosus* Schlotheim, 1813 for the purposes of both the Principle of Priority and the Principle of Homonymy;
- (b) to set aside all previous fixations of type specimens for the nominal species *nodosus* Schlotheim, 1813, as published in the binomen *Ammonites nodosus*, prior to that by Urlichs & Mundlos, 1987, p. 7;
- (c) to set aside all previous designations of type species for the nominal genus *Ceratites* de Haan, 1825 and to designate *Ammonites nodosus* Schlotheim, 1813, as the type species;
- (2) to place on the Official List of Generic Names in Zoology the name *Ceratites* de Haan, 1825 (gender: masculine), type species as designated in (1)(c) above *Ammonites nodosus* Schlotheim, 1813;
- (3) to place on the Official List of Specific Names in Zoology the name *nodosus* Schlotheim, 1813, as published in the binomen *Ammonites nodosus* (specific name of the type species of *Ceratites* de Haan, 1825) and as defined by the lectotype designated by Urlichs & Mundlos (1987) cited in para. 10(c) above;
- (4) to place on the Official Index of Rejected and Invalid Specific Names in Zoology the name *nodosa* Bruguière, 1789, as published in the binomen *Ammonites nodosa* and as suppressed in (1)(a) above.

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